

Serial No. 09/737,078

31 An absorbent article is provided for use in the perineal area of the body. Compliant sealing cuffs are pre-formed to extend outward from the central portion of the article. The cuffs may be formed by looping a strip of resilient highloft material covered with a porous material so as to form a compliant cuff which bears against the user's body in a comfortable manner. An elastic member placed in tension so as to impart an arcuate shape to the article may be placed inside a cavity formed by the cuff. The cuffs may be applied to an article having wings attached to the central portion so as to form pockets for retaining the elasticized portions of the panty crotch.

In the Specification:

On page 1, beginning at line 3, please re-write the first paragraph as follows:

PRN 6-17-02 32 This application is a continuation-in-part of application serial number 09/108,483, now ^{filed July 1, 1998} abandoned, which is a continuation-in-part of application serial number 08/522,876, now ^{filed September 1, 1995} abandoned.

Please delete the paragraphs beginning on page 8, line 10 through page 12, line 3, in the Summary of the Invention section, and insert therefor the following:

In accordance with the present invention, there has been provided an absorbent article for use in a perineal area of a user's body to absorb body fluid, the absorbent article comprising:

33 a) a fluid pervious first layer forming a top body faceable surface; b) a fluid impervious second layer forming a bottom garment faceable surface opposite the body faceable surface; c) an absorbent core positioned between the first layer and the second layer; d) right and left cuffs which extend along a substantial portion of opposite right

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and left lateral sides of the absorbent article, respectively, the cuffs being located in at least a central portion of the absorbent article, each cuff having a base portion and a distal end, each cuff comprising an inner layer comprising a strip of resilient, high loft, fluid permeable material, and an outer layer comprising a flexible, fluid repellent porous material, said outer layer substantially covering said inner layer, and wherein the right and left cuffs are attached along their respective base portions to the right and left lateral sides of the absorbent article, respectively, such that the distal ends of the cuffs extend outward from the right and left lateral sides of the absorbent article, respectively.

On page 16, lines 1-21, please amend this paragraph as follows:

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The strip of high loft material may be formed from a fibrous woven or nonwoven flexible fabric that is soft, comfortable, and cushiony, to provide a comfortable "feel" to the user, and also possesses an open, fluid-permeable structure, i.e., having void spaces which are capable of holding or retaining fluid, and which may optionally be capable of drawing fluid away from the fluid repellent porous material which covers the high loft material to provide a 'clean-dry' appearance to the cuff. As used herein the term 'high loft material' refers to materials which either as a single layer or as a multi-layer laminate provide a total thickness of the cuff of at least 25 mils. The exact thickness of either the high loft material or the fluid repellent porous material is not per se critical to the invention, provided of course, that the total thickness of the cuff is at least 25 mils, preferably at least 40 mils, and most preferably between 40 and 80 mils. The strip of high loft material may be wicking or non-wicking, and is preferably non-wicking so as not to promote the flow of fluid beyond the cuff.

On page 18, last paragraph, please re-write the paragraph as follows:

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Suitable materials for use as the fluid repellent porous material include, but are not limited to, any of the conventional fluid repellent materials used as fluid pervious cover layers in commercially available absorbent sanitary products such as apertured polymeric films, nonwoven fabrics and woven fabrics. A preferred material for use as the fluid repellent porous material is a hydrophobic apertured polymeric film. In a most preferred embodiment, the apertured polymeric film is applied as a separate strip of material which is attached to the side cuffs while the film is tensioned in an amount sufficient to form the absorbent article into an arcuate shape along a longitudinal dimension of the article. Alternatively, it is also possible to use the same apertured polymeric film which was used as the cover layer to simultaneously form the side cuffs as shown in Figures 12 - 13. In another embodiment of the invention, each of the cuffs comprises a laminated structure having a top layer and a bottom layer, wherein one or more layers of polymeric film or polymeric foam material are laminated to one or more layers of the resilient, fluid permeable, high loft material, with the proviso that the top layer of the laminated structure comprises a fluid permeable material. Optionally, one of the layers of polymeric film or polymeric foam material is tensioned prior to being laminated to the one or more layers of the resilient, fluid permeable, high loft material.

On page 21, please re-write the last paragraph as follows:

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The barrier layer 9 generally comprises a single sheet of material having a surface area sufficient to cover the entire garment-faceable surface 17 of the absorbent article. The fluid impervious barrier layer 9 may extend around the sides of the core 7 in a C-shaped configuration as shown in Figure 9 with the portions 10 of the barrier layer that are adjacent its longitudinal edges 32 extending upwardly from the garment faceable surface 17 toward the body faceable surface 16 so as to form a portion of the lateral sides 30 of the absorbent article 1.

On page 27, please re-write the last paragraph as follows:

According to another embodiment of the current invention, the cuff 6 may be attached to the absorbent article, preferably to the flanges of the absorbent article, in a configuration so as to form a loop which encloses a cavity 36, discussed further below. The loop configuration of the cuff 6 provides a compliant gasket effect while the combination of high loft resilient material 47 with fluid repellent porous cover material provides a clean dry appearance to the absorbent article. Thus, the rigidity and directional stability provided by the resilient high loft material in the cuff 6 is not obtained at the detriment of comfort. Specifically, the distal ends 13 of the cuffs are readily deformed by an inward force 37, imparted by the user's thigh which act in the plane of the cuff, as shown in Figure 8. The force 37 is elastically absorbed by the flexure resistance of the high loft material in the compliant cuff which permits a bending deformation of the loop which flattens the cavity 36, as shown in Figure 6(b). In this manner the cuff 6 remains in sealing contact with the body throughout a range of motion due to the resilient, flexure resistant nature of the high loft material. Moreover, the compliancy of the cuff 6 can be varied by adjusting the size and shape of the cavity 36, and the thickness and resilience of the high loft material.

On page 28, please re-write the last paragraph as follows:

As shown in Figure 5, in the longitudinal middle section of the absorbent article having an optional transfer layer 67, between the cover 2 and the absorbent core 7, the cuffs 6 extend outward from the lateral sides of the absorbent article and are preferably maintained within the plane of the base portions of the cuff. That is it is preferred that the cuffs remain substantially flat, i.e. the cuffs preferably remain in a plane which is substantially parallel to the cover layer and/or the barrier layer of the absorbent article. However, the cuffs may optionally extend a distance above the body faceable surface 16 of the central portion 2 specifically, above the portion of the body faceable surface 16 that is adjacent the sides 30 of the central portion. In accordance with

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this aspect of the current invention, the distance by which the cuffs extend above the adjacent portion of the body faceable surface 16 may be greater than zero to enhance a sealing contact with the user's body, as shown in Figure 8. However, this distance must not be so great, notwithstanding the aforementioned directional stability, that the cuffs 6 fold inwardly over the body faceable surface 16 in use, thereby covering a substantial portion of the body faceable surface and preventing it from passing fluid to the absorbent core 7.

On page 30, please re-write the second paragraph as follows:

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In one aspect of this embodiment, an elastic element 14, e.g., an elastic polyurethane foam, is laminated to the interior surface of the cuff 6, as shown in Figure 7(b). In this embodiment, the elastic element 14 extends essentially the length of the cuff 6 and may be attached to the cuff at its ends. The elastic element 14 may be tensioned or untensioned, where, in its untensioned state, the elastic element provides enhanced resilience to maintain the side cuffs ability to retain their original shape after the application of deformation forces from a user's thighs. Alternatively, the elastic foam may be applied to the absorbent article in tension to impart an arcuate shape to the absorbent article. In this embodiment, the elastic element, in its non-deformed state, is shorter than the cuff 6 so that the elastic element is placed in tension by extending it at least 15% when it is attached to the ends of the cuff. When released, the elastic element returns to its approximate original length, thereby forcing the article into an arcuate shape. In yet another alternative embodiment, the length of the elastic member may optionally span only a portion of the cuff length while still being placed in tension so as to impart an arcuate shape. In the preferred embodiment, the elastic element extends at least 30% of the length of the cuff.

On page 32, please re-write the last paragraph as follows:

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In yet another alternate embodiment of the absorbent article according to the current invention is shown in Figure 13 (b). According to this embodiment, the cuff further contains a elastic element 14 in the form of a substantially flat strip of a flexible resilient material attached to the barrier layer 10. The elastic element 14 may be formed from a cross-linked foam, such as VOLARA, supplied by Voltek, a division of Sekisui America Corporation of Lawrence, MA, having a thickness in the range of approximately 0.03 to 0.12 inch. The elastic element 14 is advantageously disposed between the portion 10 of the barrier layer 10 and the high loft material 47 adjacent their longitudinal edges respectively, and attached via adhesive to each. Moreover, as shown in Figure 9, the ~~barrier layer~~ ^{cover layer} portion 8 may be extended so as to cover substantially all of the outward facing surface of the cuff, thereby further preventing leakage.

On page 33, beginning at line 22, please re-write this paragraph as follows:

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As shown in Figure 11(b), the cuff 6 could be formed by joining the interior surfaces of the two portions ~~55~~ ^{the} of the strip of material ⁵⁷ adjacent its longitudinal edges ~~directly~~ ⁵⁵ together, and then attaching the inward facing surface of cuff 6 to the outward facing surface of the portion 10 of the barrier layer 9 adjacent its longitudinal edge 32 and attaching the inward facing surface of the portion ¹⁰ of the barrier layer ⁹ adjacent its longitudinal edge ³² to the outward facing surface of the portion 18 of the cover layer 8 adjacent its longitudinal edge 33 so that the portion 10 of the barrier layer 9 is disposed between the cuff and the portion 18 of the cover layer 8. Also, as shown in Figure 11(c), the outward facing surface of the cuff 6 could be attached to the inward facing surface of the portion 10 of the barrier layer and the inward facing surface of the cuff attached to the outward facing surface of the portion 18 of the cover layer so that the cuff is disposed between the portions 10 and 18 of the barrier layer and cover layer, respectively.

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On page 37, please re-write the first paragraph as follows:

Figures

Figure 13(a), 13(b) and 13(c) show three embodiments of the cuffs 6 shown in Figure 12.

As previously discussed, a cavity 36 can be formed inside the cuff so as to impart additional compliancy to the cuff 6. Moreover, a strip of elastic foam 14, placed in tension when applied to the absorbent article, can be disposed within the laminate to impart the aforementioned arcuate shape to the article. Additionally, a layer of porous, high loft foam 47 could be laminated to the inner surface of portion 18 of the cover layer 8 to further increase the compliancy of the cuff, as shown in the embodiment in Figure 13(b). Alternatively, the porous high loft foam 47 could be laminated to the outer surface of cover layer portion 18. *(not shown)* As shown in Figure 13(c), a strip of elastic foam 47 placed in tension can be wrapped around the barrier layer portion 10 to provide both compliancy and shaping. In the embodiment shown in Figure 13(c), the cavity 36 has been eliminated, relying entirely on the foam strip 47 for compliancy.